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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,633	09/19/2005	Albert Armer	3003-1031-1	4962

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EXAMINER	
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ART UNIT	PAPER NUMBER
4147	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/518,633	ARMER ET AL.	
	Examiner	Art Unit	
	DNYANESH KASTURE	4147	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 7-18* is/are rejected.

7)☒ Claim(s) *6,19 and 20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 December 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20 Dec 04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 0214231.3, filed on 06/20/2002.

Drawings

2. The drawings are objected to because it is not clear from Figure 3 because it is unclear how the condensate enters Chamber (310) after exiting Chamber (304). The opening in Chamber (304) that allows condensate to overflow into Chamber (310) and the connection thereto are either hidden or not shown. In addition, the entire label (300) which denotes the entire pump needs to be present somewhere on the drawing in Figure 3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: Page 7, Line 4-7: “The pressure between 328 and 318 may be at least 2/3 to 1 bar below supply pressure when the float valve 318 is open” needs clarification. It is not clear if the pressure at (328) is being referred to or is it the pressure at (318) or is it the pressure difference between (328) and (318) at the end of discharge that is being referred to.

4. Page 8, Lines 23-25 state: “The operating levers 409 of the valves are turned by the action of one or more pneumatic "thruster" cylinders 410 that are supplied with compressed air, or are vented, through a shuttle valve 340 substantially as previously”. It is not clear what is the motive force to vent the thruster, however, it appears that the thruster may be of a "spring return" type as mentioned later in the specification.

5. Appropriate correction is required.

6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

7. The following title is suggested: "Fluid Pump with multiple chambers and control apparatus".

8. Also, a statement claiming foreign priority as set forth in 37 CFR § 1.55 must be added to the specification.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1,2,3,4,5,7,8,10,12,13,14,15,16,17 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Emmons (US Patent 1,006,540 A).

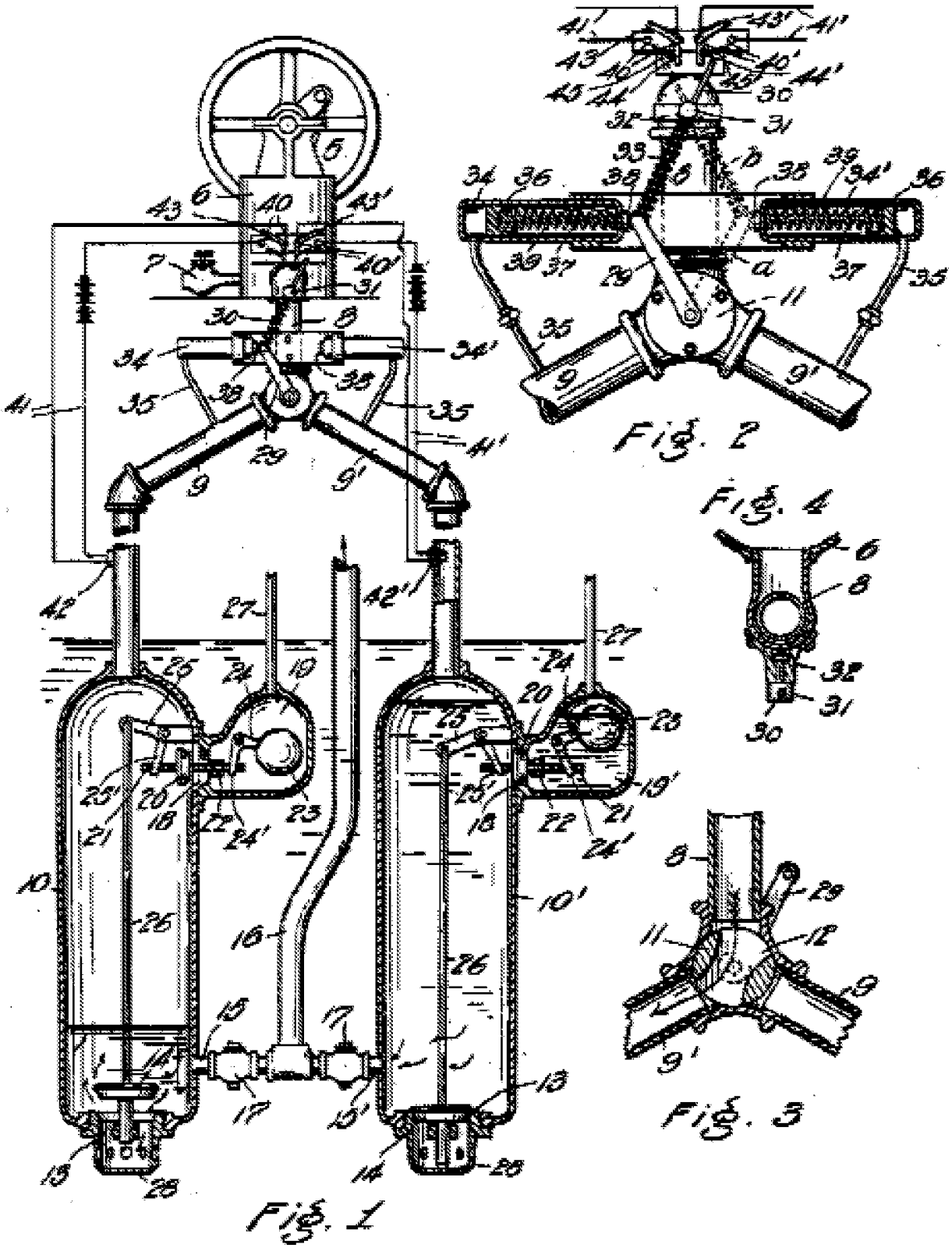

Fig. 1

Fig. 2

Fig. 3

Fig. 4

11. In Re claim 1, with reference to Figures 1-4 as depicted above, Emmons discloses a pumping apparatus described as:

- a first container (10) including a pressurisable chamber
- an inlet (13)
- an outlet (15)
- a control apparatus (21,22,23,24,25)
- second container (19)
- pilot valve (20)
- second container (19) receiving liquid from the first container (10) through passage (18) when the liquid in the first container (10) reaches the level of passage (18)
- the pilot valve (20) configured to close the passage (18) and when the float (23) rises in response to the liquid in the second container (19). The closing of the valve (20) triggers a pressurization cycle for the motive fluid that enters through pipe (9). The motive fluid exits through pipe (27) during the depressurization cycle.

12. In Re claim 2, Emmons discloses a non-return valve (17) intended to allow liquid to pass therethrough only when the pressure of the liquid exceeds a predetermined threshold.

13. In Re claim 3, Emmons discloses a valve (11) which controls the flow of motive fluid into the first container (10), and out of it by allowing it to be vented through

passage (18) and vent pipe (27). The valve is also inherently capable of venting the motive fluid without the second pump.

14. In Re claim 4, Emmons discloses the second container (19) which is relatively small compared to the first container (10) as depicted in Figure 1.

15. In Re claim 5, Emmons discloses the second container (19) whose base is at a relatively higher location than the base of the first container (10) as shown in Figure 1.

16. In Re claim 7, Emmons discloses a Compressor (5) supplying motive fluid to first container (10).

17. In Re claim 8, Emmons discloses cylinder (34) wherein the motive fluid is supplied to or vented from, and the cylinder (34) also operates to initiate the pressurization/depressurization cycle of the first container.

18. In Re claim 10, Emmons discloses two pumps, as described:

- a first container with a pressurizable chamber:
  (10) for the first pump and (10') for the second pump
- a inlet: (13) in each of the first and second pumps
- an outlet: (15) for the first pump and (15') for the second pump
- a control apparatus:

(21,22,23,24,25) for the first pump and (21,22,23,24,25') for the second pump

- the apparatus is arranged so that when one pump is discharging fluid, the other is receiving fluid, as depicted in Figure 1.

19. In Re claim 12, Emmons discloses a valve (14) in each first container of the two pumps at the inlet. As depicted in Figure 1, the valves are arranged so that when one pump is charging, the other is discharging.

20. In Re claim 13, Emmons discloses a valve (11) which controls the flow of motive fluid into the first container (10), and out of it by allowing it to be vented through passage (18) and vent pipe (27). The valve is also inherently capable of venting the motive fluid without the second pump.

21. In Re claim 14 and 15, Emmons discloses the second container (19) which is relatively small compared to the first container (10) as depicted in Figure 1.

22. In Re claim 16,17 and 18, Emmons discloses the second container (19) whose base is at a relatively higher location than the base of the first container (10) as shown in Figure 1.

Claim Rejections - 35 USC § 103

23 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

24 Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emmons (US Patent 1,006,540 A).

25 In Re claims 9 and 11, Emmons discloses two pumps in parallel, however it does not disclose the further valve component in each container configured to vent the motive fluid from the first container when the second vent is closed.

26 However, Emmons discloses a plug valve (11) which can be configured with the vent pipes (27), keeping one closed while the other is open.

27 It would have been obvious to a person having ordinary skill in the art at the time of the invention to install another plug valve with both vent pipes, configured to keep one vent pipe open while the other is closed for the purpose of reducing the number of components in the apparatus by using a single vent pipe for both pumps. "Common sense teaches, however, that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle." KSR Int'l Co. v. Teleflex Inc. 550 U.S.__, 82 USPQ2d 1385 (Supreme Court 2007) (KSR). In Rational A "Combining prior art elements according to known methods to yield predictable results", step 1 is met because the vent pipes (27) and plug valve (11) are disclosed by

Emmons, step 2 is met because Emmons teaches how to use the plug valve for "communication between pipe (8) and either of its branches" - Column 2; lines 55-57, and step 3 is met because Emmons suggests that venting the chambers through pipe (27) is a predictable result because the pipe (27) is used in both pumps.

Allowable Subject Matter

28 Claims 6, 19 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

29 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Stafford (US Patent 2,669,941 A) discloses another parallel pumping system. Uefuji (US Patent 3,790,306 A) discloses a condensate trap and associated pump. Gottliebson (US Patent 4,321,017 A) discloses a pump where two chambers are filled simultaneously before being pumped.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DNYANESH KASTURE whose telephone number is (571)270-3928. The examiner can normally be reached on Mon-Fri, 9:00 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Nguyen can be reached on (571) 272-4491. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dnyanesh Kasture
Examiner
Art Unit 4147

DGK

/George Nguyen/
Supervisory Patent Examiner, Art Unit 4147